ANALYST:		VPDES NO.	

Parameter: Total Residual Chlorine (TRC)
Method: DPD Colorimetric (HACH Pocket and Pocket II Colorimeter)
11/2014

METHOD OF ANALYSIS: **Instrument:** _____

	HACH Manufacturer's Instructions (Method 8167) plus an edition of *Standard Methods*
	21st Edition of *Standard Methods* 4500-Cl G-2000 (SM 21 Cl)
	22nd Edition of *Standard Methods* 4500-Cl G-2011 (SM 22 Cl)

		Y	N
1)	Is a certificate of operator competence or initial demonstration of capability available for each analyst/operator performing this analysis? **NOTE:** Analyze 4 samples of known TRC. Must use a lot number or source that is different from that used to prepare calibration standards. May not use Spec√ ™. Acceptance range is 70-130% recovery **and** 20% Relative Standard Deviation (RSD) **or** within PT specified acceptance range **and** 20% RSD. [SM 1020 B.1]		
2)	Is calibration curve verification checked daily using a high and a low standard? **NOTE:** May use manufacturer's installed calibration and commercially available chlorine standards, or Spec√ ™, for daily calibration verifications. [SM 21 1020]		
3)	**IF** a replicate sample is analyzed is there a written procedure for which result will be reported on DMR (Sample or Replicate) and is this procedure being followed? [DEQ – based on EPA Good Laboratory Practices Standards]		
4)	Is a Laboratory Control Sample (LCS) tested at least annually and are results within acceptance criteria? [SM 21 B. 2. or SM 22 1020 B 3.] **NOTE:** LCS should be a purchased Proficiency Test (PT) sample or if a known standard different from the calibration standards is used. Use the PT acceptance criteria when given or use 70-130% recovery **and** 20% Relative Standard Deviation (RSD) as the acceptance criteria.		
5)	Are the DPD Powder Pillows stored in a cool, dry place? [Mfr.]		
6)	Are the pillows within the manufacturer's expiration date? [Mfr.]		
7	Are pillows appropriate for the sample size being analyzed and for Total Residual Chlorine		
8)	Has buffering capability of DPD pillows been checked annually? (Pillows should adjust sample pH to between 6 and 7) [Mfr.]		
9)	When pH adjustment is required, is H_2SO_4 or NaOH used? [Hach 11.3.1]		
10)	Are cells clean and in good condition? [Mfr]		
11)	Is the Hach colorimeter program set to measure "TRC, mg/L"? [Mfr.]		
12)	Is the low range (0.01 mg/L resolution) used for samples containing residuals from 0.1 mg/L - 2.00 mg/L? [Mfr.]		
13)	Is the 10-mL cell (2.5-cm diameter) used for samples from 0-2.00 mg/L? [Mfr.]		
14)	Are samples analyzed within 15 minutes of collection? [40 CFR Part 136]		
15)	Is meter zeroed correctly using sample for the blank analysis? [Mfr. and SM 21 1020 B.4. or SM 22 1020 B.5.]]		
16)	Is the instrument light screen placed correctly on the meter body when the meter is zeroed and when the sample is analyzed? [Mfr.]		
17)	Is the DPD Total Chlorine Powder Pillow mixed into the sample? [Hach 11.1]		

18)	Is the analysis made at least three minutes but not more than six minutes after Powder Pillow addition? [Hach 11.2]		
19)	If read-out exceeds “2.19 mg/L”, is the original sample diluted correctly, and then reanalyzed within 15 minutes of the original collection time? [Hach 1.2 & 2.0]		

PROBLEMS: